



Research Article

Effectiveness of a Structured Teaching Programme on Knowledge Regarding Prevention of Complications of Diabetes among Elderly Diabetic Patients

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Submitted : 10 August, 2026

Accepted : 21 August, 2026

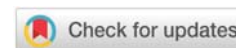
Published : 22 August, 2026

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Keywords: Diabetes Mellitus; Elderly diabetic patients; Structured teaching programme; Knowledge; Prevention of complications

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Abstract

Introduction: Diabetes mellitus is one of the leading chronic metabolic disorders worldwide and represents a major public health challenge, particularly among the elderly population. Elderly diabetic patients are highly susceptible to both microvascular and macrovascular complications because of advancing age, prolonged disease duration, associated comorbidities, and inadequate awareness regarding preventive measures. Improving patients' knowledge through structured educational interventions may enhance self-care practices and reduce diabetes-related complications. This study was conducted to evaluate the effectiveness of a Structured Teaching Programme (STP) on knowledge regarding the prevention of complications of diabetes among elderly diabetic patients.

Methods: A quantitative research approach with a pre-experimental one-group pre-test and post-test design was adopted. The study was conducted among 60 elderly diabetic patients residing in ADDAGUTTA urban community in Hyderabad, Telangana. Participants were selected using a non-probability purposive sampling technique. A structured knowledge questionnaire was administered before the intervention to assess baseline knowledge. Following the pre-test, a Structured Teaching Programme on prevention of diabetic complications was implemented. A post-test using the same questionnaire was conducted to evaluate the effectiveness of the intervention. Descriptive and inferential statistics were used for data analysis, including paired *t*-test and chi-square test.

Results: The mean pre-test knowledge score was 16.20 ± 2.06 , whereas the mean post-test knowledge score increased to 31.91 ± 3.60 . The mean improvement in knowledge score was 15.71. The calculated paired *t*-value was 35.49, which was statistically significant at the 0.05 level of significance, indicating that the Structured Teaching Programme significantly improved participants' knowledge regarding prevention of diabetic complications.

Conclusion: The Structured Teaching Programme was highly effective in improving the knowledge of elderly diabetic patients regarding prevention of complications of diabetes mellitus. Health education interventions should be incorporated into routine community-based diabetic care to promote preventive practices and improve long-term health outcomes among elderly individuals.

Abbreviations

DM: Diabetes Mellitus; STP: Structured Teaching Programme; HbA1c: Glycated Haemoglobin; IDF: International Diabetes Federation; SD: Standard Deviation; SPSS: Statistical Package for the Social Sciences; OPD: Outpatient Department

Introduction

Diabetes Mellitus (DM) is a chronic metabolic disorder characterized by persistent hyperglycaemia resulting from impaired insulin secretion, insulin action, or both. It is one of the fastest-growing non-communicable diseases worldwide and has become a major public health concern because of

its increasing prevalence, associated complications, and substantial economic burden [1–3]. Older adults constitute one of the most vulnerable groups affected by diabetes owing to physiological ageing, multiple comorbidities, functional limitations, and reduced ability to perform effective self-care [15–19].

Globally, diabetes affects hundreds of millions of individuals and continues to increase at an alarming rate. India has one of the largest populations of individuals living with diabetes, making diabetes prevention and management a national healthcare priority [1, 4, 5]. Urbanization, sedentary lifestyles, unhealthy dietary habits, obesity, and increasing life expectancy have contributed significantly to the rising prevalence of diabetes among elderly populations. Elderly diabetic patients are particularly susceptible to complications such as diabetic retinopathy, nephropathy, neuropathy, cardiovascular diseases, cerebrovascular accidents, and diabetic foot ulcers, which adversely affect quality of life and increase morbidity and mortality [2, 3,16–19].

Most diabetes-related complications can be delayed or prevented through effective glycemic control, lifestyle modification, medication adherence, regular screening, and patient education [2,3,15,20]. However, many elderly individuals possess inadequate knowledge regarding preventive measures and self-management practices. Deficiencies in awareness concerning diet, exercise, medication compliance, blood glucose monitoring, and foot care often contribute to preventable complications and increased healthcare utilization [3,15,16,20]. Therefore, patient education remains one of the most effective nursing interventions for improving disease management and promoting healthy behaviors [14, 20].

Structured Teaching Programme (STP) provides systematic, evidence-based educational interventions designed to improve patients' knowledge, attitudes, and self-care behaviors. Previous studies have demonstrated that educational interventions significantly improve knowledge regarding diabetes management and reduce the incidence of diabetes-related complications [6, 10]. Nurses play a pivotal role in delivering these educational programmes, particularly in community settings where elderly patients require continuous guidance and reinforcement of preventive practices [14,20].

Considering the increasing burden of diabetes among elderly individuals and the observed knowledge deficit regarding prevention of complications [1,4,5], the present study was undertaken to evaluate the effectiveness of a Structured Teaching Programme on knowledge regarding prevention of complications of diabetes among elderly diabetic patients residing in a selected urban community in Hyderabad, Telangana. The findings of this study may assist community health nurses and policymakers in planning effective educational interventions to improve diabetes self-management and reduce the burden of diabetes-related complications [14,20].

Materials and methods

Study design

The present study adopted a quantitative research approach

using a pre-experimental one-group pre-test and post-test design to evaluate the effectiveness of a Structured Teaching Programme (STP) on knowledge regarding prevention of complications of diabetes among elderly diabetic patients [11,13]. The one-group pre-test and post-test design enabled the investigator to measure participants' knowledge before and after administration of the educational intervention, thereby determining the effectiveness of the programme.

Study setting

The study was conducted in an Urban Community, i.e., Addagutta, Hyderabad, Telangana, India. The community was selected because of the availability of a sufficient number of elderly diabetic patients, accessibility of the investigator, and administrative permission to conduct the research. The pilot study was conducted at an Urban Community, i.e., Lalapet, Hyderabad.

Study population

The target population comprised elderly diabetic patients aged 60 years and above residing in ADDAGUTTA, an urban community in Hyderabad, Telangana. The accessible population included elderly diabetic patients who fulfilled the eligibility criteria during the period of data collection.

Sample size

A total of 60 elderly diabetic patients constituted the sample for the study.

Sampling technique

A non-probability convenience sampling technique was used to select participants who met the inclusion criteria [11–13].

Eligibility Criteria

Inclusion Criteria

The study included elderly diabetic patients who

- were 60 years of age and above
- had been diagnosed with diabetes mellitus
- were able to understand English, Hindi, or Telugu
- were willing to participate in the study.

Exclusion Criteria

The study excluded elderly diabetic patients who

- were critically ill during the period of data collection
- had severe cognitive impairment or communication difficulties
- had previous participation in similar structured educational programmes on prevention of diabetic complications.

Research Variables

Independent Variable

- Structured Teaching Programme (STP) on prevention of complications of diabetes.

Role of the structured teaching programme

The Structured Teaching Programme was considered the intervention in the present pre-experimental study. The study adopted a one-group pre-test and post-test design, in which the participants' knowledge regarding prevention of complications of diabetes mellitus was assessed before and after administration of the STP.

The STP was therefore not treated as a demographic or independent variable in the demographic association analysis. The pre-test and post-test knowledge scores represented the outcome measurements, while the Structured Teaching Programme constituted the educational intervention administered between the two assessments.

Study sequence:

Pre-test → Structured Teaching Programme (Intervention) → post-test

This design was used to determine whether there was a change in knowledge following exposure to the Structured Teaching Programme.

Dependent Variable

- Knowledge regarding prevention of complications of diabetes among elderly diabetic patients.

Demographic Variables

The demographic variables included age, gender, marital status, educational status, monthly income, occupation, duration of diabetes, family history of diabetes, dietary habits, presence of comorbidities, previous knowledge regarding diabetes, and source of information.

Description of the Instrument

Data were collected using a structured knowledge questionnaire developed by the investigator after an extensive review of literature and consultation with subject experts. The development and use of the structured knowledge questionnaire were guided by principles of nursing research and instrument development [11–13].

The instrument consisted of two sections:

Section A: Demographic characteristics of the elderly, including age, gender, marital status, educational status, occupation, monthly income, duration of diabetes, family history, dietary habits, comorbidities, previous knowledge, and source of information.

Section B: Structured knowledge questionnaire to assess knowledge regarding prevention of complications of diabetes

mellitus. Knowledge scores were categorized according to the predetermined scoring criteria developed by the investigator.

Development of the structured teaching programme

The Structured Teaching Programme (STP) was developed after reviewing current literature, standard diabetes management guidelines, textbooks, and published research articles [3,6–10,15–20]. The educational content was organized into simple and understandable modules appropriate for elderly diabetic patients. The teaching programme was delivered using lecture, discussion, and visual teaching aids, followed by clarification of participants' doubts.

The Structured Teaching Programme (STP) was developed and administered as the educational intervention for elderly patients with diabetes mellitus. The programme was designed based on the objectives of the study and relevant information regarding diabetes mellitus and prevention of its complications. The total duration of the teaching programme was 20 minutes, and it was delivered through a lecture-cum-discussion method.

The STP covered the following content: introduction to diabetes mellitus, causes and risk factors, signs and symptoms, prevention of acute and chronic complications, dietary management, physical activity, medication adherence, blood glucose monitoring, foot care, eye care, lifestyle modification, and the importance of regular medical check-ups and follow-up.

The teaching programme was delivered using appropriate teaching aids, including charts, pamphlets, flash cards, and flip charts, to facilitate understanding among elderly participants. The session included explanation of the content, interaction with participants, clarification of doubts, and reinforcement of important preventive measures.

The implementation of the intervention followed a sequential procedure. Initially, the participants' demographic information was collected, and the pre-test knowledge assessment was conducted. Subsequently, the Structured Teaching Programme was administered. After completion of the intervention, the post-test was conducted using the same structured knowledge questionnaire to assess the change in knowledge following the educational intervention.

Content validity

The research instrument and Structured Teaching Programme were validated by experts from the fields of Medical-Surgical Nursing, Community Health Nursing, Medical Education, and Biostatistics. Their suggestions regarding clarity, relevance, simplicity, and adequacy of content were incorporated before finalization of the instrument and educational intervention.

Reliability of the instrument

The reliability of the structured knowledge questionnaire was established before the main study. The obtained reliability was 0.75, indicating that the tool possesses a high level

of reliability. The instrument demonstrated satisfactory reliability, indicating that it was suitable for assessing knowledge regarding prevention of complications of diabetes among elderly diabetic patients.

Pilot study

A pilot study was conducted at Lalapet, Urban Community, Hyderabad, after obtaining administrative permission. The pilot study confirmed the feasibility of conducting the main study without major modifications.

Ethical considerations

Ethical approval was obtained from the concerned authorities of the selected urban community health centres. Written informed consent was obtained from every participant after explaining the purpose, objectives, benefits, and voluntary nature of participation. Confidentiality and anonymity of participants were maintained throughout the study, and participants were informed about their right to withdraw from the study at any stage without any consequences.

Data collection procedure

The data collection for the study was carried out over a period of one month from 09/06/2025 to 09/07/2025 at Addagutta Urban Community, Hyderabad. The data collection process was systematically organized into four phases, with 15 participants in each phase. In each phase, after obtaining written informed consent, the participants were administered a pre-test using a structured knowledge questionnaire to assess their baseline knowledge regarding the prevention of complications of diabetes. Immediately after the pretest, a Structured Teaching Programme (STP) was implemented, which included visual aids, charts, and interactive discussion to enhance understanding. The teaching sessions were conducted in the language well known to the participants to ensure better comprehension. A post-test using the same structured questionnaire was conducted seven days after the intervention to assess the effectiveness of the teaching programme. The phases were scheduled as follows: Phase I (09/06/2025 – 14/06/2025), Phase II (15/06/2025 – 20/06/2025), Phase III (21/06/2025 – 26/06/2025), and Phase IV (27/06/2025 – 02/07/2025), with corresponding post-tests completed by 09/07/2025. Confidentiality of participants was strictly maintained throughout the process (Figure 1).

Results

The collected data were analysed using descriptive and inferential statistics based on the objectives of the study. The findings were presented under five sections:

- **Section I:** Demographic characteristics of elderly diabetic patients.
- **Section II:** Pre-test knowledge regarding prevention of complications of diabetes.
- **Section III:** Post-test knowledge regarding prevention of complications of diabetes.

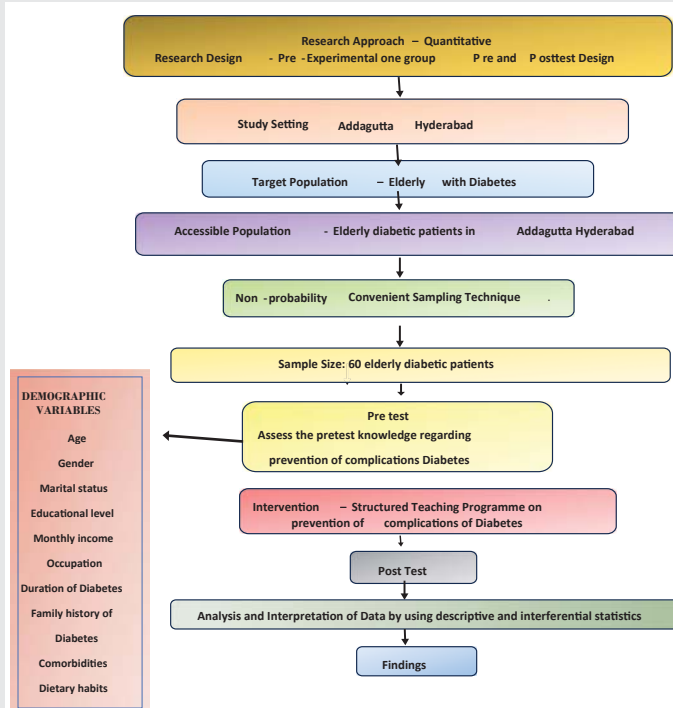


Figure 1: Flow Diagram of the Research Methodology.

Flowchart showing participant recruitment, pre-test assessment, administration of the Structured Teaching Programme, and post-test evaluation.

- **Section IV:** Effectiveness of the Structured Teaching Programme by comparing pre-test and post-test knowledge scores.
- **Section V:** Association between post-test knowledge scores and selected demographic variables.

Section I: Demographic characteristics of elderly diabetic patients

A total of 60 elderly diabetic patients participated in the study. The majority 60% belonged to the 60–65 years age group, while 53.3% were females. Most participants 63.3% were married. Regarding educational status, 38.3% had completed only primary education. More than half 58.3% had a monthly income below ₹10,000, and 60.0% were employed in the private sector. Nearly 45% had been diagnosed with diabetes for 3–5 years. Only 18.3% reported a family history of diabetes. The majority 91.7% followed a mixed diet, and 65% had associated comorbid conditions. More than half 55% had no previous knowledge regarding prevention of diabetes complications, while healthcare professionals were the major source of information among those who had prior knowledge 44.4% (Table 1).

Section II: Pre-test knowledge regarding prevention of complications of diabetes

Prior to administration of the Structured Teaching Programme, the participants demonstrated inadequate knowledge regarding prevention of complications of diabetes. The overall mean pre-test knowledge score was 16.20, with a standard deviation of 2.06, corresponding to a mean percentage score of 34.46%. These findings indicate that most

elderly diabetic patients had insufficient baseline knowledge and required educational intervention (Table 2).

Section III: Post-test knowledge regarding prevention of complications of diabetes

Following administration of the Structured Teaching Programme, there was a marked improvement in participants' knowledge. The mean post-test knowledge score increased to 31.91, with a standard deviation of 3.60, corresponding to a mean percentage score of 67.90%. These findings indicate that the educational intervention substantially improved participants' knowledge regarding prevention of diabetic complications (Table 3).

Section IV: Effectiveness of the structured teaching programme

Comparison of pre-test and post-test knowledge scores

Table 1: Distribution of Elderly Diabetic Patients According to Selected Demographic Characteristics (N = 60).

S. No.	Demographic characteristic	n	%
1	Age in years		
	60–65	36	60.0
	66–70	19	31.7
	71–75	5	8.3
2	Gender		
	Male	28	46.7
	Female	32	53.3
3	Marital status		
	Single	5	8.3
	Married	38	63.3
	Widowed	17	28.3
4	Educational qualification		
	Primary school	23	38.3
	Secondary school	20	33.3
	Higher secondary	17	28.3
5	Monthly income		
	<₹10,000	35	58.3
	₹10,001–20,000	21	35.0
	₹20,001–30,000	4	6.7
6	Occupation		
	Unemployed	24	40.0
	Private employee	36	60.0
7	Duration of diabetes mellitus		
	3–5 years	27	45.0
	6–9 years	24	40.0
	10–12 years	4	6.7
	>12 years	5	8.3

Description: Presents the distribution of the 60 elderly diabetic patients according to selected demographic characteristics. The majority of participants were aged 60–65 years (60.0%), were female (53.3%), married (63.3%), had primary-level education (38.3%), reported a monthly income below ₹10,000 (58.3%), and were private employees (60.0%). Regarding duration of diabetes mellitus, 45.0% had diabetes for 3–5 years, while 40.0% had diabetes for 6–9 years.

Table 2: Distribution of Pre-test Knowledge Scores.

Knowledge Level	Frequency	Percentage
Inadequate	32	53.3%
Moderate	28	46.7%
Adequate	0	0.0%

Table 3: Distribution of Post-test Knowledge Scores.

Knowledge Level	Frequency	Percentage
Inadequate	0	0.0%
Moderate	21	35.0%
Adequate	39	65.0%

revealed a statistically significant improvement following administration of the Structured Teaching Programme. The mean difference between pre-test and post-test scores was 15.71. The calculated paired *t*-value was 35.49, which was statistically significant at $p < 0.05$, indicating that the Structured Teaching Programme was highly effective in improving participants' knowledge regarding prevention of complications of diabetes mellitus (Table 4, Figure 2).

Comparison of knowledge categories before and after the intervention

The participants' knowledge levels were classified into three categories: below average, average, and above average. Since these categories were measured in the same participants before and after the intervention, the Stuart–Maxwell test for marginal homogeneity was considered appropriate for evaluating changes in the distribution of the three paired categorical knowledge levels.

However, the pre-test data contained no participants in the above-average category, resulting in a structural zero in the paired category table. Therefore, the Stuart–Maxwell test could not be reliably estimated from the available data. Accordingly, the primary assessment of intervention effectiveness was based on the comparison of the continuous pre-test and post-test knowledge scores using the paired *t*-test, while the three-category results were presented descriptively (Figure 3).

Section V: Association between post-test knowledge scores and selected demographic variables

For analysis of the association between post-test knowledge and demographic characteristics, the continuous post-test knowledge score was retained rather than converting the score into below-average, average, and above-average categories.

Retaining the continuous score preserves the information contained in the original knowledge measurement and provides a more appropriate assessment of differences in post-test knowledge across demographic groups. The continuous post-test score was therefore used as the dependent outcome variable in the demographic comparisons.

Independent-samples *t*-test was used for demographic variables having two groups, whereas one-way analysis of

Table 4: Comparison of Pre-test and Post-test Knowledge Scores.

Variable	Mean	SD	Mean Difference	Paired 't'	'p' value
Pre-test	16.20	2.06	15.71	35.49	<0.005
Post-test	31.91	3.60			

Comparison of Mean Pre-test and Post-test Knowledge Scores Regarding Prevention of Complications of Diabetes Mellitus (N = 60).

Description: Table 5 presents the comparison of the continuous knowledge scores of the 60 elderly diabetic patients before and after administration of the Structured Teaching Programme. The mean pre-test knowledge score was 16.2 ± 2.06 , whereas the mean post-test knowledge score increased to 31.91 ± 3.60 . The mean improvement in knowledge score was 15.71. The paired t-test value of 35.49 demonstrated a statistically significant difference between the pre-test and post-test scores ($p < 0.001$), indicating a significant improvement in knowledge following the intervention.

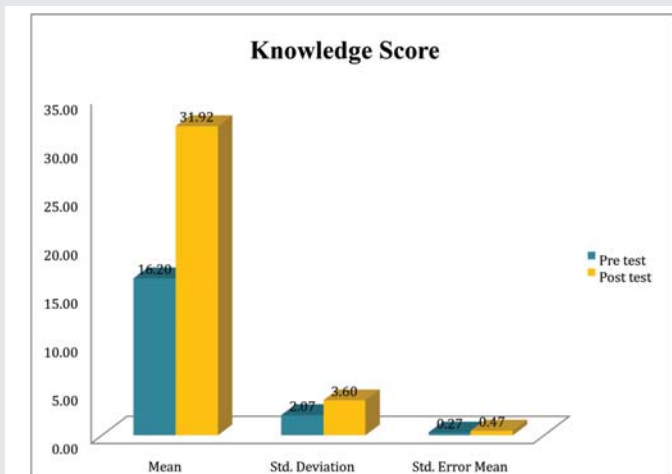


Figure 2: Comparison of Mean Pre-test and Post-test Knowledge Scores (A) Mean pre-test knowledge score among elderly diabetic patients. (B) Mean post-test knowledge score after administration of the Structured Teaching Programme.

Illustrates the mean knowledge scores before and after the Structured Teaching Programme among 60 elderly diabetic patients. The figure demonstrates a clear increase in the mean knowledge score from the pre-test to the post-test, indicating improvement in knowledge following the educational intervention.

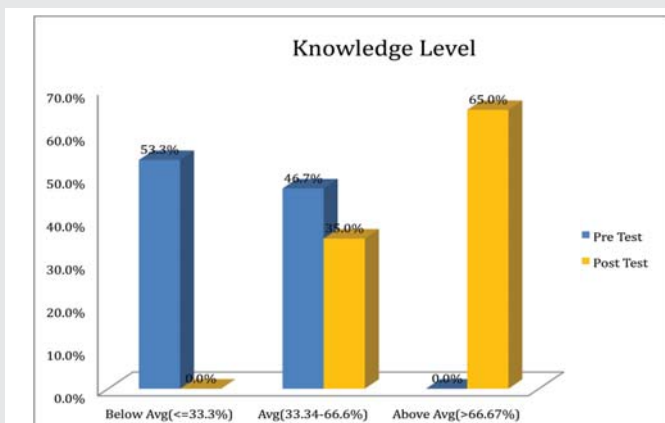


Figure 3: Distribution of Participants According to Knowledge Levels Before and After the Intervention.

Bar graph illustrating the percentage distribution of knowledge categories during pre-test and post-test assessments.

presents the distribution of participants according to knowledge categories before and after the Structured Teaching Programme. In the pre-test, participants were distributed between the below-average and average categories, with no participant classified as above average. Following the intervention, participants shifted from the below-average category to the average and above-average categories, demonstrating an overall improvement in their knowledge.

variance (ANOVA) was used for variables having more than two groups, as appropriate.

Analysis of age and post-test knowledge score

The relationship between age and the continuous post-test knowledge score was planned to be assessed using Pearson's correlation coefficient, provided that the assumptions required for Pearson correlation, particularly normality, linearity, and absence of influential outliers, were satisfied.

However, in the available study data, age was recorded in categorical age groups (60–65, 66–70, 71–75, and 76 years and above) rather than as exact age in years. Therefore, Pearson's correlation could not appropriately be calculated from the available data. Consequently, the age groups were compared using one-way ANOVA with the continuous post-test knowledge score as the outcome variable.

Comparison of post-test knowledge scores according to demographic characteristics

The continuous post-test knowledge score was compared across demographic characteristics using statistical tests appropriate to the number of categories in each variable. For demographic variables with two categories, an independent-samples t-test was used. For demographic variables with more than two categories, one-way ANOVA was used.

The level of statistical significance was set at $p < 0.05$. The analysis was performed using the continuous post-test knowledge score rather than categorized knowledge levels to avoid unnecessary loss of information (Table 5).

Discussion

The present study demonstrated a substantial improvement in knowledge regarding the prevention of complications of diabetes mellitus following administration of the Structured Teaching Programme. The increase in the mean knowledge score from the pre-test to the post-test suggests that the educational intervention was effective in improving participants' understanding of important preventive measures [6, 10].

The improvement may be attributed to the structured organization of the teaching content and the use of a lecture-cum-discussion approach supported by visual teaching aids. The programme addressed practical areas relevant to elderly diabetic patients, including dietary management, physical activity, medication adherence, blood glucose monitoring, foot care, eye care, lifestyle modification, and regular health check-ups. These components are directly relevant to the prevention and early recognition of diabetes-related complications [3,15,16,20].

The findings also suggest that a relatively brief educational intervention can provide an opportunity to strengthen knowledge among elderly diabetic patients in a community setting. From a nursing perspective, structured health education can be incorporated into routine community-based diabetes

Table 5: Association Between Post-test Knowledge Scores and Demographic Variables (N = 60).

Variable	χ^2	df	p value	Significance
Age	1.515	2	>0.05	NS
Gender	4.250	1	<0.05	S*
Marital status	5.995	2	<0.05	S*
Educational qualification	22.112	2	<0.05	S*
Monthly income	7.336	2	<0.05	S*
Occupation	6.459	1	<0.05	S*
Duration of diabetes	8.575	3	<0.05	S*
Family history of diabetes	7.253	1	<0.05	S*
Comorbidities	2.376	3	>0.05	NS
Dietary habits	1.499	1	>0.05	NS
Previous knowledge regarding diabetes	1.925	1	>0.05	NS
Source of information	7.594	2	<0.05	S*

Abbreviations: χ^2 = Chi-square test; df = degrees of freedom; S* = Statistically Significant ($p < 0.05$); NS = Not Statistically Significant.

The demographic characteristics of the participants also provide important insights. Most participants belonged to the 60–65 years age group, were female, married, had only primary education, and reported low monthly income. More than half had no previous knowledge regarding prevention of diabetes complications before the intervention. These characteristics may explain the inadequate baseline knowledge observed in the present study and emphasize the importance of community-based educational programmes for elderly diabetic patients.

care to reinforce preventive practices and encourage patients to participate actively in their own disease management.

The absence of statistically significant differences in post-test knowledge across the examined demographic characteristics such as age, Comorbidities, Dietary habits and Previous knowledge regarding diabetes suggests that the improvement in knowledge was not strongly differentiated by the demographic factors assessed in this sample. However, these findings should be interpreted cautiously because the sample was relatively small and was selected using a non-probability sampling technique.

The findings also have implications for community health nursing practice. Nurses can use structured educational sessions to provide consistent information regarding prevention of diabetes complications and can reinforce important behaviours during follow-up visits. Educational materials that are simple, visual, and adapted to the needs of older adults may further facilitate understanding and retention [6–10,14].

Despite the positive improvement in knowledge, the findings should not be interpreted as definitive evidence of causality. The one-group pre-test and post-test design does not include a control group and therefore cannot completely exclude alternative explanations for the observed improvement, such as exposure to the pre-test itself or other external influences. In addition, the use of non-probability sampling limits the generalizability of the findings [11,13].

Future research should consider randomized or controlled study designs, larger samples, probability sampling, and follow-up assessments to determine whether the improvement in knowledge is sustained over time and whether increased

knowledge translates into improved diabetes self-care practices and reduction in preventable complications.

Overall, the findings emphasize the critical role of nurses in community health education. Structured educational interventions can substantially improve knowledge among elderly diabetic patients and may contribute to better self-management, improved adherence to preventive measures, and ultimate reduction in diabetes-related complications.

Sampling and generalizability

The study used non-probability purposive sampling to select the participants. Although this approach facilitated recruitment of eligible elderly diabetic patients from the selected urban community, it may have introduced selection bias and reduced the representativeness of the sample.

Therefore, the statistical findings, including hypothesis-testing results, should be interpreted within the context of the study sample. The p values should not be interpreted as evidence that the observed relationships necessarily apply to the wider population of elderly diabetic patients. Furthermore, the findings cannot be generalized broadly to all elderly diabetic patients because the participants were selected from a single urban community using a non-probability sampling technique.

Future studies using probability sampling and larger samples from multiple settings may provide stronger evidence regarding the generalizability of the findings.

Conclusion

The present study concluded that elderly diabetic patients initially possessed inadequate knowledge regarding prevention of complications of diabetes mellitus. Administration of a Structured Teaching Programme significantly improved their knowledge, as evidenced by the substantial increase in post-test scores compared with pre-test scores. The statistically significant improvement observed after the intervention confirms that the Structured Teaching Programme is an effective nursing intervention for enhancing knowledge regarding preventive measures among elderly diabetic patients. Incorporating structured health education into routine community-based diabetic care may improve self-management practices, promote healthier lifestyles, reduce the occurrence of diabetes-related complications, and improve quality of life among elderly individuals. The study therefore supports the integration of structured educational programmes into community health nursing services as an essential strategy for diabetes prevention and management.

Conflict of interest

The authors declare that there is no conflict of interest regarding the publication of this research study.

Funding

This research received no specific grant from any funding agency in the public, commercial, or not-for-profit sectors.

Acknowledgement

The authors express their sincere gratitude to the Medical Officers of UCHC Lalapet and UPHC Addagutta for granting permission to conduct the pilot and main studies. Special appreciation is extended to all the elderly diabetic patients who voluntarily participated in the study and made this research possible.

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